7050.0130 Definitions

Water Identification number (WID) means a unique identifier assigned by the agency to identify a surface water. For rivers and streams, a WID is an 8-digit hydrologic unit code, followed by three digits that further define the range of water being identified. For lakes, wetlands, and reservoirs, a WID a two-digit county identification code, followed by a four-digit unique lake number, followed by a two-digit basin identification code. For purposes of part 7050.0224, a WID identifies a specific section of a river or stream.

Wild rice stem. Wild rice stem means the stalk of a wild rice plant. Multiple stalks and tillers from a single wild rice plant are each a single stem. A wild rice stem is not a leaf and may or may not have a seed head.

7050.0224 SPECIFIC WATER QUALITY STANDARDS FOR CLASS 4 WATERS OF THE STATE; AGRICULTURE AND WILDLIFE.

Subpart 1. ~~General~~ Class 4 generally.

a) The numeric and narrative water quality standards in this part prescribe the qualities or properties of the waters of the state that are necessary for the Class 4 beneficial use of agriculture and wildlife ~~designated public uses and benefits. Wild rice is an aquatic plant resource found in certain waters within the state. The harvest and use of grains from this plant serve as a food source for wildlife and humans. In recognition of the ecological importance of this resource, and in conjunction with Minnesota Indian tribes,~~
~~selected wild rice waters have been specifically identified as Class 4WR [WR] and listed in part 7050.0470, subpart 1. The quality of these waters and the aquatic habitat necessary to support the propagation and maintenance of wild rice plant species must not be materially impaired or degraded~~.

b) ~~If~~ Exceeding the standards in this part ~~are exceeded~~ in Class 4 waters of the state ~~that have the Class 4 designation, it~~ is considered indicative of a polluted condition ~~which~~ that is actually or potentially deleterious, harmful, detrimental, or injurious ~~with respect~~ to the ~~designated uses~~ beneficial use.

Subp. 2. Class 4A waters; irrigation. The quality of Class 4A waters of the state ~~shall be such as to~~ must permit ~~their~~ use for irrigation without significant damage or adverse effects ~~upon any~~ on crops or vegetation usually grown in the waters or area, including truck garden crops. The following standards ~~shall~~ must be used as a guide in determining the suitability of the waters for such uses, together with the recommendations contained in Handbook 60 published by the Salinity Laboratory of the United States Department of Agriculture, and any revisions, amendments, or supplements to it:

Substance, Characteristic, or Pollutant	Class 4A Standard
Bicarbonates (HCO_3)	5 milliequivalents per liter
Boron (B)	0.5 mg/L
pH, minimum value	6.0
pH, maximum value	8.5
Specific conductance	1,000 micromhos per centimeter at 25°C

Total dissolved salts	700 mg/L
Sodium (Na)	60% of total cations as milliequivalents per liter
~~Sulfates (SO_4)~~	~~10 mg/L, applicable to water used for production of wild rice during periods when the rice may be susceptible to damage by high sulfate levels.~~
Radioactive materials	Not to exceed the lowest concentrations permitted to be discharged to an uncontrolled environment as prescribed by the appropriate authority having control over their use

Subpart 3. **Class 4B waters; Livestock and wildlife.** The quality of Class 4B waters of the state ~~shall be such as to~~ must permit ~~their~~ use by livestock and wildlife without inhibition or injurious effects. The standards for substances, characteristics, or pollutants given ~~below shall~~ in this subpart must not be exceeded in ~~the~~ Class 4B waters of the state:

...

Subp. 4. **Class 4C waters; wetlands.** The quality of Class 4C wetlands ~~shall be such as to~~ must permit ~~their~~ use for irrigation and by wildlife and livestock without inhibition or injurious effects and be suitable for erosion control, groundwater recharge, low flow augmentation, storm water retention, and stream sedimentation. The standards for Classes 4A and 4B waters ~~shall~~ apply to these waters except as listed ~~below~~ in this subpart:

....

For purposes of this subpart, "Maintain background" means the concentration of the water quality substance, characteristic, or pollutant shall not deviate from the range of natural background concentrations or conditions such that there is a potential significant adverse impact to the ~~designated uses~~ beneficial use.

Subp. 5 Class 4D waters; Wild Rice. The following standards and requirements apply to all Class 4D waters.

A . Wild rice is an aquatic plant resource found in certain waters within the state. The harvest and use of grains from these plants serve as a food source for wildlife and humans. Wild rice means plants of the species *Zizania palustris* and *Zizania aquatic*a, and the species' varieties and hybrids. Class 4D wild rice waters of the state are specifically identified in 7050.0471.

B. To protect the (Class 4D beneficial use of) harvest and use of the grain from wild rice as a food source for wildlife and humans, the concentration of sulfate must not exceed the calculated sulfate standard as an annual average in the wild rice water.

1) The calculated sulfate standard, expressed as **mg SO_4^{2-}/L** is derived for each Class 4D water using the following equation:

Calculated Sulfate Standard = 0.0000121 x *Organic Carbon*$^{-1.197}$ x *Iron*$^{1.923}$

Where:

Organic carbon is the sediment total organic carbon as percent carbon, as C, in dry sediment; and

Iron is the sediment extractable iron as micrograms iron per gram dry sediment.

2) The commissioner must derive the calculated sulfate standard for Class 4D waters. Sediment concentrations of total organic carbon and extractable iron used in the equation must be determined using the sulfate standard methodologies incorporated by reference in item D.

3) The sulfate standard is met when the average of all samples taken within a calendar year is less or equal to than the calculated numeric standard. The standard must be met in each calendar year. Excursions above the standard are not an exceedance if, on an annual basis, the average sulfate value does not exceed the calculated numeric standard.

C. The calculated applicable sulfate standard only applies to waters listed in part 7050.0471 and as described in (a)- (b):

(a) for lakes, reservoirs and wetlands identified in part 7050.0471, the calculated sulfate standard applies to the entire water identified by a WID.

(b) for rivers and streams: ***Still under consideration – see below.***

<table>
<tr><td colspan="4">Goals/Objectives:
• Identify where the standard applies while recognizing that rice beds move.
• Protect wild rice in rivers/streams while acknowledging that downstream discharges may not have an effect on upstream rice.
• Avoid setting sulfate limits for facilities that cannot impact wild rice (e.g. downstream).
• Recognize that some WIDs are very long and the conditions for rice may be present at only a few locations.
• Avoid the need to make case-by case determinations of whether wild rice could be present.
• Avoid a complicated assessment and impaired water listing process.</td></tr>
<tr><td colspan="4">A few options (there may be more):</td></tr>
<tr><td>Apply the standard to the whole WRW (WID)</td><td>Apply the standard only at the location of a wild rice bed.</td><td>Apply the standard only at the location of a wild rice bed +/- some distance (800 m).</td><td>Apply the standard to the whole WRW (WID) and identify exceptions to reasonable potential/need for effluent limit.</td></tr>
</table>

D. Class 4D waters must be added to part 7050.0471 only through rulemaking according to this item and Minnesota Statutes, chapter 14. The commissioner must propose rules to identify a water as Class 4D in part 7050.0471 when the commissioner has a reasonable basis to conclude that the wild rice beneficial use is an existing use (on or after November 28, 1975) in the surface water. Meeting one of the following criteria provides a reasonable basis to conclude that the beneficial use is an existing use:

(1) Wild rice presence at a minimum stem density of 8 stems/meter^2 over at least .25 acre or at a minimum stem density of 4 stems/meter^2 over at least .5 acre; or

(2) A demonstrated history of human harvest of wild rice.

E. The following documents are incorporated by reference:

1) Wild Rice Sulfate Standard Implementation, Minnesota Pollution Control Agency, (2016 and as subsequently amended) is not subject to frequent change and is available on the agency's web site at www.pca and through the Minitex interlibrary loan system.

2) Sulfate Standard Methodologies, Minnesota Pollution Control Agency (2016 and as subsequently amended) is not subject to frequent change and is available on the MPCA's web site at www.pca and through the Minitex interlibrary loan system.

Subpart 6. Class 4 WR waters; wild rice. Wild rice is an aquatic plant resource found in certain waters within the state. The harvest and use of grains from this plant serve as a food source for wildlife and humans. In recognition of the ecological importance of this resource, and in conjunction with Minnesota Indian tribes, selected wild rice waters have been specifically identified as Class 4WR and identified in part 7050.0470. The quality of these waters and the aquatic habitat necessary to support the propagation and maintenance of wild rice plant species must not be materially impaired or degraded.

7050.0470 CLASSIFICATIONS FOR SURFACE WATERS IN MAJOR DRAINAGE BASINS.

Subpart 1. Scope. Class 1, 2A, 2B, 2Bd, 2C, 2D, 3, 4WR and 7 waters are identified in subparts 1 to 9. Class 4D waters are identified in part 7050.0471.

Subpart ~~1~~ 1a. **Lake Superior Basin.**

The water use classifications for the listed waters in the Lake Superior Basin are as identified in items A to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

7050.0471 CLASS 4D SURFACE WATERS IN MAJOR DRAINAGE BASINS.

Subpart 1. **Scope.** Class 4D waters are identified in subparts 2 to 8. Identified waters are described by water identification number.

Subpart 2. **Lake Superior Basin.** The waters identified as 4D within each of the major watersheds in the Lake Superior Basin listed in items A to E are found in tables entitled "Class 4D Beneficial Use Designations for Wild Rice Waters" published by the Minnesota Pollution Control Agency. The tables are incorporated by reference, are not subject to frequent change, and are available at www.pca.state.mn.us.. The date after each watershed listed in items A to E is the publication date of the applicable table. Use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us./quick-links/eda-surface -water-data)

A. 04010101 Lake Superior- North (date);
B. 04010102 Lake Superior –South (date);
C. 04010201 St.Louis River (date);
D. 04010202 Cloquet River (date); and
E. 04010301 Nemadji River (date).

Subpart 3. **Lake of the Woods Basin**. The waters identified as 4D within each of the major watersheds in the Lake of the Woods Basin listed in items A to H are found in tables entitled "Class 4D Beneficial Use Designations for Wild Rice Waters" published by the Minnesota Pollution Control Agency. The tables are incorporated by reference, are not subject to frequent change, and are available at www.pca.state.mn.us.. The date after each watershed listed in items A to H is the publication date of the applicable table. Use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us./quick-links/eda-surface -water-data)

A. 09030001 Rainy River- Headwaters (date)
B. 09030002 Vermillion River (date)
C. 09030003 Rainy River-Rainy Lake (date)
D. 09030005 Little Fork River (date)
E. 09030006 Big Fork Rivr (date)
F. 09030007 Rapid River (date)
G. 09030008 Rainy River- Lower (date)
H. 09030009 Lake of the Woods (date)

Subpart 4. **Red River of the North Basin**. The waters identified as 4D within each of the major watersheds in the Red River of the North Basin listed in items A to Q are found in tables entitled "Class 4D Beneficial Use Designations for Wild Rice Waters" published by the Minnesota Pollution Control Agency. The tables are incorporated by reference, are not subject to frequent change, and are available at www.pca.state.mn.us.. The date after each watershed listed in items A to Q is the publication date of the applicable table. Use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us./quick-links/eda-surface -water-data)

A. 09020101 Bois de Sioux River (date)
B. 09020102 Mustinka River (date)
C. 09020103 Otter Tail River (date)
D. 09020104 Upper Red River of the North (date)
E. 09020106 Buffalo River (date)
F. 09020107 Red River of the North- Marsh River (date)

G. 09020108 Wild Rice River (date)
H. 09020301 Red River of the North – Sandhill River (date)
I. 09020302 Upper/Lower Red Lake (date)
J. 09020303 Red Lake River (date)
K. 09020304 Thief River (date)
L. 09020305 Clearwater River (date)
M. 09020306 Red River of the North-Grand Marais Creek (date)
N. 09020309 Snake River (date)
O. 09020311 Red River of the North- Tamarac River (date)
P. 09020312 Two Rivers (date)
Q. 09020314 Roseau River (date)

Subpart 5. **Upper Mississippi River Basin (headwaters to the confluence with the St. Croix River)**. The waters identified as 4D within each of the major watersheds in the Upper Mississippi River Basin listed in items A to O are found in tables entitled "Class 4D Beneficial Use Designations for Wild Rice Waters" published by the Minnesota Pollution Control Agency. The tables are incorporated by reference, are not subject to frequent change, and are available at www.pca.state.mn.us.. The date after each watershed listed in items A to O is the publication date of the applicable table. Use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us./quick-links/eda-surface -water-data)

A. 07010101 Mississippi River- Headwaters (date)
B. 0701010 2 Leech Lake River (date)
C. 07010103 Mississippi River- Grand Rapids (date)
D. 07010104 Mississippi River-Brainerd (date)
E. 07010105 Pine River (date)
F. 07010106 Crow Wing River (date)
G. 07010107 Redeye River (date)
H. 07010108 Long Prairie River (date)
I. 07010201 Mississippi River-Sartell (date)
J. 07010202 Sauk River (date)
K. 07010203 Mississippi River-St. Cloud (date)
L. 07010204 North Fork Crow River (date)
M. 07010205 South Fork Crow River (date)
N. 07010206 Mississippi River- Twin Cities (date)
O. 07010207 Rum River (date)

Subpart 6. **Minnesota River Basin**. The waters identified as 4D within each of the major watersheds in the Minnesota Basin listed in items A to L are found in tables entitled "Class 4D Beneficial Use Designations for Wild Rice Waters" published by the Minnesota Pollution Control Agency. The tables are incorporated by reference, are not subject to frequent change, and are available at www.pca.state.mn.us.. The date after each watershed listed in items A to L is the publication date of the

applicable table. Use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us./quick-links/eda-surface -water-data)

A. 07020001 Minnesota River- Headwaters (date)
B. 07020002 Pomme de Terre River (date)
C. 07020003 Lac qui Parle River (date)
D. 07020004 Minnesota River-Yellow Medicine River (date)
E. 07020005 Chippewa River (date)
F. 07020006 Redwood River (date)
G. 07020007 Minnesota River- Mankato (date)
H. 07020008 Cottonwood River (date)
I. 07020009 Blue Earth River (date)
J. 07020010 Watonwan River (date)
K. 07020011 Le Sueur River (date)
L. 07020012 Lower Minnesota River (date)

Subpart 7. **St. Croix River Basin**. The waters identified as 4D within each of the major watersheds in the St. Croix River Basin listed in items A to D are found in tables entitled "Class 4D Beneficial Use Designations for Wild Rice Waters" published by the Minnesota Pollution Control Agency. The tables are incorporated by reference, are not subject to frequent change, and are available at www.pca.state.mn.us.. The date after each watershed listed in items A to D is the publication date of the applicable table. Use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us./quick-links/eda-surface -water-data)

A. 07030001 Upper St. Croix River (date)
B. 07030002 Kettle River (date)
C. 07030001 Snake River (date)
D. 07030001 Lower St. Croix River (date)

Subpart 8. **Lower Mississippi River Basin**. The waters identified as 4D within each of the major watersheds in the Lower Mississippi River Basin listed in items A to H are found in tables entitled "Class 4D Beneficial Use Designations for Wild Rice Waters" published by the Minnesota Pollution Control Agency. The tables are incorporated by reference, are not subject to frequent change, and are available at www.pca.state.mn.us.. The date after each watershed listed in items A to H is the publication date of the applicable table. Use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us./quick-links/eda-surface -water-data)

A. 07040001 Mississippi River – Lake Pepin (date)
B. 07040002 Cannon River (date)
C. 07040003 Mississippi River-Winona (date)
D. 07040004 Zumbro River (date)
E. 07040006 Mississippi River- La Crescent (date)
F. 07040008 Root River (date)
G. 07060001 Mississippi River-Reno (date)
H. 07060002 Upper Iowa River (date)